

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ATHENA AUTOMATION LTD.,
Petitioner,

v.

HUSKY INJECTION MOLDING SYSTEMS LTD.,
Patent Owner.

Case IPR2013-00290
Patent 7,670,536 B2

Before JENNIFER S. BISK, MICHAEL J. FITZPATRICK, and
GEORGIANNA W. BRADEN, *Administrative Patent Judges*.

BISK, *Administrative Patent Judge*.

AMENDED FINAL WRITTEN DECISION ON REMAND
35 U.S.C. § 144 and 35 U.S.C. § 318(a)

BACKGROUND

This Decision addresses the United States Court of Appeals for the Federal Circuit’s remand in *Husky Injection Molding Sys. v. Athena Automation Ltd.*, 838 F.3d 1236 (Fed. Cir. 2016).

On May 20, 2013 a Petition (Paper 3, “Pet.”) was filed by Athena Automation Ltd. (“Petitioner”) challenging claims 1–22 of U.S. Patent No. 7,670,536 B2 (Ex. 1001, “the ’536 patent”) owned by Husky Injection Molding Systems, Ltd. (“Patent Owner”). We instituted an *inter partes* review (Paper 18, “Inst. Dec.”) and, after briefing and oral argument, we issued a Final Decision (Paper 45, “Final Dec.”) finding claims 1, 4–16, 18, and 20–22 anticipated by Arend,¹ but finding that Petitioner did not meet its burden to show that claims 1–7, 12, and 17–20 were anticipated by Glaesener² with portions of Choi³ incorporated by reference. Both parties appealed to the Federal Circuit.

On September 23, 2016, the Federal Circuit issued a decision, dismissing-in-part and vacating and remanding-in-part the Final Decision. *Husky*, 838 F.3d at 1249. Relevant to this Decision, the Federal Circuit vacated our finding relating to anticipation by Glaesener with respect to claims 2, 3, 17, and 19 (“the remanded claims”) and remanded the case for further consideration of Petitioner’s challenge of these claims. *Id.* Specifically, the Federal Circuit held that Glaesener incorporates “at least some portions of Choi,” contrary to our finding in the Final Decision, and, thus, remanded “for the Board to evaluate anticipation in the first instance in light of Glaesener/Choi.” *Id.* The mandate issued November 14, 2016.

Following a teleconference, during which the parties disagreed upon the issues before us in this remanded proceeding, we authorized each of the parties to

¹ U.S. Patent 5,417,913 (Ex. 1004).

² U.S. Patent Application 2004/0208950 (Ex. 1002).

³ U.S. Patent 5,753,153 (Ex. 1003).

file a post-remand brief. Paper 56. The parties filed their briefs on February 10, 2017. Paper 59 (“PO Remand Br.”); Paper 60 (“Pet. Remand Br.”).

After considering the entire record, we conclude that Petitioner has shown, by a preponderance of the evidence, that claims 2, 3, 17, and 19 are anticipated by Glaesener with the relevant portions of Choi incorporated by reference.

DISCUSSION

A. *The ’536 Patent*

The ’536 patent is titled “Molding-System Clamp” and relates to injection molding machines that inject, under pressure, injectable molding material into a mold cavity. Ex. 1001, 8:8–10, 37–42, 63–66. The mold cavity is created by two halves of a mold, each mounted on a platen, closed against each other. *Id.* at 9:20–24, 57–61. Once closed, the mold is held in that position by a clamp assembly, and the two platens are secured by a locking mechanism. *Id.* at 8:37–42; 9:29–31; Figs. 2A, 2B.

The locking mechanism includes both a lock member associated with a rod and a complementary lock member associated with a platen. *Id.* at Abstract. Once the two members of the locking mechanism are engaged (locked), clamp actuators apply a clamping force to keep the mold closed as it receives molding material under pressure. *Id.* at 8:39–42. This clamping force causes uneven load stresses on the platen. *Id.* at 13:42–45. Thus, some portions, or zones, of the platen receive less load stress in comparison to the stress experienced by other zones. *Id.* The uneven stress causes the platen to bend, or flex, more at some zones (relatively higher flex zones) relative to others (relatively lower flex zones). *Id.* Accordingly, the ’536 Patent discloses engaging the two lock members at a position that is proximate to a relatively lower flex zone of the platen resulting in reduced wear associated with the teeth of the locking mechanisms. *Id.* at 13:55–67.

Figures 2A and 2B of the '536 patent, reproduced below, depict the clamp assembly of the molding system, according to one embodiment, in which the clamp assembly is placed in a mold opened position.

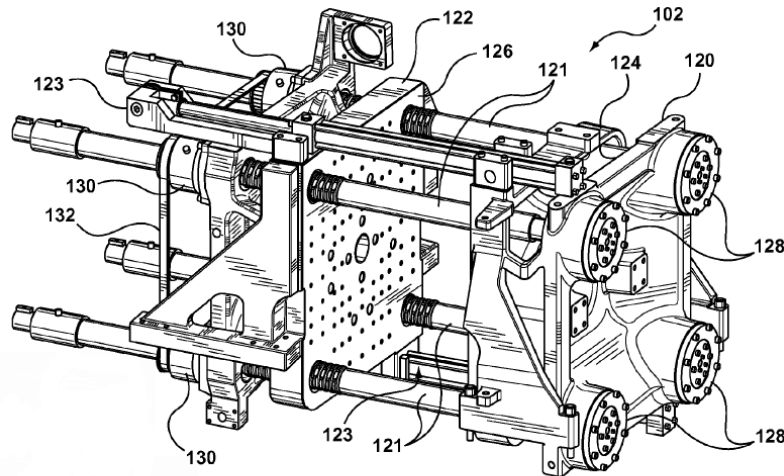


FIG. 2A

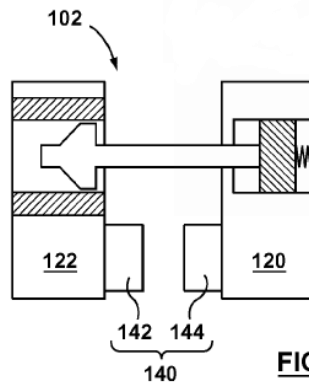


FIG. 2B

Figure 2A of the '536 Patent illustrates clamp assembly 102 in the mold opened position. Ex. 1001, 7:29–31. Clamp assembly 102 includes (i) stationary platen 120, (ii) movable platen 122, (iii) platen stroke actuators 123, (iv) clamp actuators 128, (v) rods 121, and (vi) tie-bar locking mechanisms 130. Figure 2A does not depict the mold. *Id.* at 8:62–63. Figure 2B depicts the clamp assembly of Figure 2A with mold portions 142 and 144 visible in the mold opened position—the mold portions are separated from each other. *Id.* at 8:58–62; 9:47–50.

Figure 8A of the '536 patent, reproduced below, depicts clamp actuator 128, also referred to as a clamp.

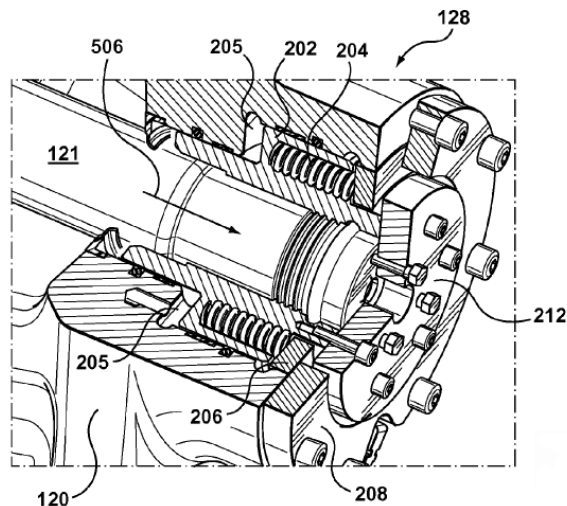


FIG. 8A

Figure 8A illustrates the clamp of clamp assembly 102. Ex. 1001, 7:51–52. The clamp is actuated so that clamping force 506 is applied to rod 121. *Id.* at 13:12–14.

The '536 patent provides a series of figures illustrating an exemplary embodiment of clamp assembly 102 at various times during the molding process. Each figure depicts positions of the two mold portions and clamp. Several of the figures explicitly show locking teeth 238 and 248 and whether the teeth are separated by a gap or not.

Figures 5C, 6C, and 7B are reproduced side-by-side below. In Figures 6C and 7B, teeth 238 are shown in yellow, and teeth 248 are shown in green (coloring added). The gap between the teeth, unlabeled in the original figure 6C, is shown in red, as annotated.

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