

US00D644536S

# (12) United States Design Patent

Witz et al.

# (10) Patent No.:

US D644,536 S

## (45) **Date of Patent:**

\*\* Sep. 6, 2011

#### (54) SUPPORT LEDGE OF A PREFORM

(75) Inventors: Jean-Christophe Witz, Yutz (FR);

Arnold Mai, Irrel (DE); Laurent Christel Sigler, Hettange-Grande (FR)

(73) Assignee: Husky Injection Molding Systems

Ltd., Bolton, Ontario (CA)

(\*\*) Term: 14 Years

(21) Appl. No.: 29/305,692

(22) Filed: Mar. 26, 2008

(52) **U.S. Cl.** ..... **D9/740** 

313/37–38, 271–279, 316, 333; 315/46–49, 315/66–69; D9/740–745

See application file for complete search history.

## (56) References Cited

#### U.S. PATENT DOCUMENTS

3,904,061 A	9/1975	Keeler
4,337,870 A	7/1982	Keeler
D292,373 S *	10/1987	Costa
5,599,567 A	2/1997	Gellert
6,557,714 B2	5/2003	Babcock et al.
6,659,297 B2		Gregory et al.
D499,495 S *	12/2004	Walterscheid D26/1
D569,737 S *	5/2008	Ogawa et al D9/740
D626,664 S *	11/2010	Chan D26/1
2006/0283210 A1	12/2006	Dubuis et al.

# FOREIGN PATENT DOCUMENTS

CA 2505697 A1 5/2004 CA 2509181 A1 12/2006

## OTHER PUBLICATIONS

Husky Injection Molding Systems LTD., HyPET Preform Systems, Mar. 2010, 8 pages, 10-015, Printed in Canada. http://www.pet-verpackungengmbh.de/fileadmin/user\_upload/

http://www.pet-verpackungengmbh.de/fileadmin/user\_upload/datenbank/bilder\_pdf/21g\_100\_7mm\_PCO28\_Petcycle\_sp8av134\_pc.pdf.

Primary Examiner — Marcus Jackson

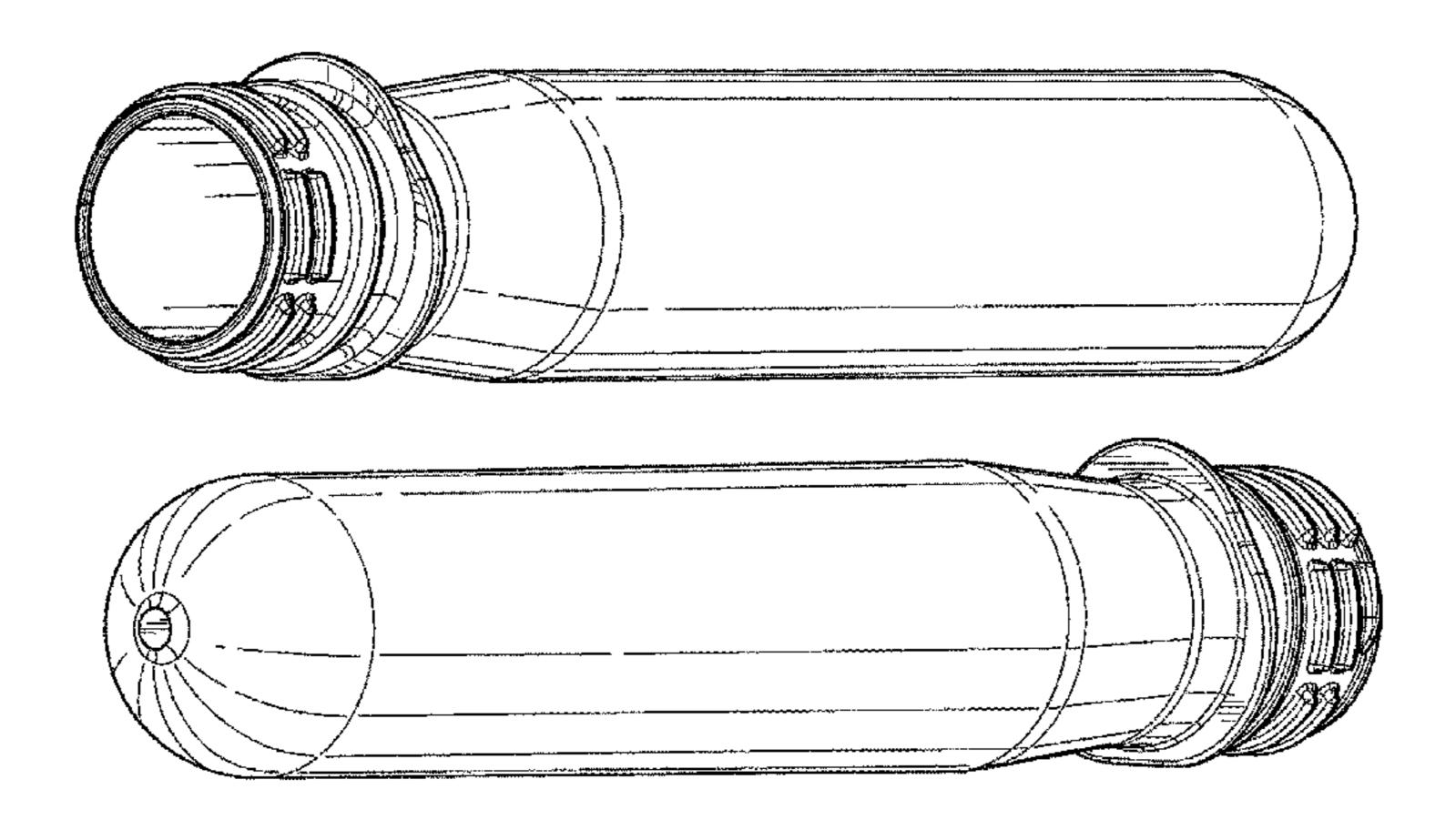
(74) Attorney, Agent, or Firm — Husky Intellectual Property Services

## (57) CLAIM

We claim the ornamental design for a support ledge of a preform, as shown and described.

#### **DESCRIPTION**

- FIG. 1 depicts a perspective view of the preform having a support ledge according to a first embodiment, in a first direction;
- FIG. 2 depicts a perspective view of the preform having the support ledge of FIG. 1 in a second direction;
- FIG. 3 depicts a front view of a preform having the support ledge of FIG. 1;
- FIG. 4 depicts a side view of a preform having the support ledge of FIG. 1;
- FIG. 5 depicts a perspective view of the preform having a support ledge according to a second embodiment, in a first direction;
- FIG. 6 depicts a perspective view of the preform having the support ledge of FIG. 5 in a second direction;
- FIG. 7 depicts a front view of a preform having the support ledge of FIG. 5;
- FIG. 8 depicts a side view of a preform having the support ledge of FIG. 5;
- FIG. 9 depicts a perspective view of the preform having a support ledge according to a third embodiment, in a first direction;
- FIG. 10 depicts a perspective view of the preform having the support ledge of FIG. 9 in a second direction;
- FIG. 11 depicts a front view of a preform having the support ledge of FIG. 9;
- FIG. 12 depicts a side view of a preform having the support ledge of FIG. 9;
- FIG. 13 depicts a perspective view of the preform having a support ledge according to a fourth embodiment, in a first direction;
- FIG. 14 depicts a perspective view of the preform having the support ledge of FIG. 13 in a second direction;
- FIG. 15 depicts a front view of a preform having the support ledge of FIG. 13;



<sup>\*</sup> cited by examiner

- FIG. 16 depicts a side view of a preform having the support ledge of FIG. 13;
- FIG. 17 depicts a perspective view of the preform having a support ledge according to a fifth embodiment, in a first direction;
- FIG. 18 depicts a perspective view of the preform having the support ledge of FIG. 17 in a second direction;
- FIG. 19 depicts a front view of a preform having the support ledge of FIG. 17;
- FIG. 20 depicts a side view of a preform having the support ledge of FIG. 17;
- FIG. 21 depicts a perspective view of the preform having a support ledge according to a sixths embodiment, in a first direction;
- FIG. 22 depicts a perspective view of the preform having the support ledge of FIG. 21 in a second direction;
- FIG. 23 depicts a front view of a preform having the support ledge of FIG. 21;
- FIG. 24 depicts a side view of a preform having the support ledge of FIG. 21;
- FIG. 25 depicts a perspective view of the preform having a support ledge according to a sevenths embodiment, in a first direction;
- FIG. 26 depicts a perspective view of the preform having the support ledge of FIG. 25 in a second direction;
- FIG. 27 depicts a front view of a preform having the support ledge of FIG. 25;
- FIG. 28 depicts a side view of a preform having the support ledge of FIG. 25;
- FIG. 29 depicts a perspective view of the preform having a support ledge according to an eighths embodiment, in a first direction;
- FIG. 30 depicts a perspective view of the preform having the support ledge of FIG. 29 in a second direction;
- FIG. 31 depicts a front view of a preform having the support ledge of FIG. 29;
- FIG. 32 depicts a side view of a preform having the support ledge of FIG. 29;
- FIG. 33 depicts a perspective view of the preform having a support ledge according to a ninths embodiment, in a first direction;
- FIG. 34 depicts a perspective view of the preform having the support ledge of FIG. 33 in a second direction;
- FIG. 35 depicts a front view of a preform having the support ledge of FIG. 33;
- FIG. 36 depicts a side view of a preform having the support ledge of FIG. 33;
- FIG. 37 depicts a perspective view of the preform having a support ledge according to a tenths embodiment, in a first direction;
- FIG. 38 depicts a perspective view of the preform having the support ledge of FIG. 37 in a second direction;
- FIG. 39 depicts a front view of a preform having the support ledge of FIG. 37;
- FIG. 40 depicts a side view of a preform having the support ledge of FIG. 37;
- FIG. 41 depicts a perspective view of the preform having a support ledge according to an elevenths embodiment, in a first direction;
- FIG. **42** depicts a perspective view of the preform having the support ledge of FIG. **41** in a second direction;
- FIG. 43 depicts a front view of a preform having the support ledge of FIG. 41;
- FIG. 44 depicts a side view of a preform having the support ledge of FIG. 41;

- FIG. **45** depicts a perspective view of the preform having a support ledge according to a twelve embodiment, in a first direction;
- FIG. **46** depicts a perspective view of the preform having the support ledge of FIG. **45** in a second direction;
- FIG. 47 depicts a front view of a preform having the support ledge of FIG. 45;
- FIG. 48 depicts a side view of a preform having the support ledge of FIG. 45;
- FIG. **49** depicts a perspective view of the preform having a support ledge according to a thirteenths embodiment, in a first direction;
- FIG. **50** depicts a perspective view of the preform having the support ledge of FIG. **49** in a second direction;
- FIG. **51** depicts a front view of a preform having the support ledge of FIG. **49**;
- FIG. **52** depicts a side view of a preform having the support ledge of FIG. **49**;
- FIG. **53** depicts a perspective view of the preform having a support ledge according to a fourteenths embodiment, in a first direction;
- FIG. **54** depicts a perspective view of the preform having the support ledge of FIG. **53** in a second direction;
- FIG. **55** depicts a front view of a preform having the support ledge of FIG. **53**;
- FIG. **56** depicts a side view of a preform having the support ledge of FIG. **53**;
- FIG. **57** depicts a perspective view of the preform having a support ledge according to a fifteenths embodiment, in a first direction;
- FIG. **58** depicts a perspective view of the preform having the support ledge of FIG. **57** in a second direction;
- FIG. **59** depicts a front view of a preform having the support ledge of FIG. **57**;
- FIG. **60** depicts a side view of a preform having the support ledge of FIG. **57**;
- FIG. **61** depicts a perspective view of the preform having a support ledge according to a sixteenths embodiment, in a first direction;
- FIG. **62** depicts a perspective view of the preform having the support ledge of FIG. **61** in a second direction;
- FIG. 63 depicts a front view of a preform having the support ledge of FIG. 61;
- FIG. **64** depicts a side view of a preform having the support ledge of FIG. **61**;
- FIG. **65** depicts a perspective view of the preform having a support ledge according to a seventeenths embodiment, in a first direction;
- FIG. **66** depicts a perspective view of the preform having the support ledge of FIG. **65** in a second direction;
- FIG. 67 depicts a front view of a preform having the support ledge of FIG. 65;
- FIG. **68** depicts a side view of a preform having the support ledge of FIG. **65**;
- FIG. **69** depicts a perspective view of the preform having a support ledge according to an eighteenths embodiment, in a first direction;
- FIG. 70 depicts a perspective view of the preform having the support ledge of FIG. 69 in a second direction;
- FIG. 71 depicts a front view of a preform having the support ledge of FIG. 69;
- FIG. 72 depicts a side view of a preform having the support ledge of FIG. 69;

- FIG. 73 depicts a perspective view of the preform having a support ledge according to a nineteenths embodiment, in a first direction;
- FIG. 74 depicts a perspective view of the preform having the support ledge of FIG. 73 in a second direction;
- FIG. 75 depicts a front view of a preform having the support ledge of FIG. 73;
- FIG. 76 depicts a side view of a preform having the support ledge of FIG. 73;
- FIG. 77 depicts a perspective view of the preform having a support ledge according to a twentieth embodiment, in a first direction;
- FIG. 78 depicts a perspective view of the preform having the support ledge of FIG. 77 in a second direction;
- FIG. 79 depicts a front view of a preform having the support ledge of FIG. 77;
- FIG. **80** depicts a side view of a preform having the support ledge of FIG. **77**;
- FIG. **81** depicts a perspective view of the preform having a support ledge according to a twenty first embodiment, in a first direction;
- FIG. 82 depicts a perspective view of the preform having the support ledge of FIG. 81 in a second direction;
- FIG. 83 depicts a front view of a preform having the support ledge of FIG. 81;
- FIG. **84** depicts a side view of a preform having the support ledge of FIG. **81**;
- FIG. **85** depicts a perspective view of the preform having a support ledge according to a twenty second embodiment, in a first direction;
- FIG. **86** depicts a perspective view of the preform having the support ledge of FIG. **85** in a second direction;
- FIG. 87 depicts a front view of a preform having the support ledge of FIG. 85;
- FIG. **88** depicts a side view of a preform having the support ledge of FIG. **85**;
- FIG. **89** depicts a perspective view of the preform having a support ledge according to a twenty third embodiment, in a first direction;
- FIG. 90 depicts a perspective view of the preform having the support ledge of FIG. 89 in a second direction;
- FIG. 91 depicts a front view of a preform having the support ledge of FIG. 89;
- FIG. 92 depicts a side view of a preform having the support ledge of FIG. 89;
- FIG. 93 depicts a perspective view of the preform having a support ledge according to a twenty fourth embodiment, in a first direction;
- FIG. 94 depicts a perspective view of the preform having the support ledge of FIG. 93 in a second direction;
- FIG. 95 depicts a front view of a preform having the support ledge of FIG. 93;
- FIG. 96 depicts a side view of a preform having the support ledge of FIG. 93;
- FIG. 97 depicts a perspective view of the preform having a support ledge according to a twenty fifths embodiment;
- FIG. 98 depicts a perspective view of the preform having the support ledge of FIG. 97 in a second direction, in a first direction;
- FIG. 99 depicts a front view of a preform having the support ledge of FIG. 97;
- FIG. 100 depicts a side view of a preform having the support ledge of FIG. 97;

- FIG. 101 depicts a perspective view of the preform having a support ledge according to a twenty sixths embodiment, in a first direction;
- FIG. 102 depicts a perspective view of the preform having the support ledge of FIG. 101 in a second direction;
- FIG. 103 depicts a front view of a preform having the support ledge of FIG. 101;
- FIG. 104 depicts a side view of a preform having the support ledge of FIG. 101;
- FIG. 105 depicts a perspective view of the preform having a support ledge according to a twenty sevenths embodiment, in a first direction;
- FIG. 106 depicts a perspective view of the preform having the support ledge of FIG. 105 in a second direction;
- FIG. 107 depicts a front view of a preform having the support ledge of FIG. 105;
- FIG. 108 depicts a side view of a preform having the support ledge of FIG. 105;
- FIG. 109 depicts a perspective view of the preform having a support ledge according to a twenty eighths embodiment, in a first direction;
- FIG. 110 depicts a perspective view of the preform having the support ledge of FIG. 109 in a second direction;
- FIG. 111 depicts a front view of a preform having the support ledge of FIG. 109;
- FIG. 112 depicts a side view of a preform having the support ledge of FIG. 109;
- FIG. 113 depicts a perspective view of the preform having a support ledge according to a twenty ninths embodiment, in a first direction;
- FIG. 114 depicts a perspective view of the preform having the support ledge of FIG. 113 in a second direction;
- FIG. 115 depicts a front view of a preform having the support ledge of FIG. 113;
- FIG. 116 depicts a side view of a preform having the support ledge of FIG. 113;
- FIG. 117 depicts a perspective view of the preform having a support ledge according to a thirtieth embodiment, in a first direction;
- FIG. 118 depicts a perspective view of the preform having the support ledge of FIG. 117 in a second direction;
- FIG. 119 depicts a front view of a preform having the support ledge of FIG. 117;
- FIG. 120 depicts a side view of a preform having the support ledge of FIG. 117;
- FIG. 121 depicts a perspective view of the preform having a support ledge according to a thirty first embodiment, in a first direction;
- FIG. 122 depicts a perspective view of the preform having the support ledge of FIG. 121 in a second direction;
- FIG. 123 depicts a front view of a preform having the support ledge of FIG. 121;
- FIG. 124 depicts a side view of a preform having the support ledge of FIG. 121;
- FIG. 125 depicts a perspective view of the preform having a support ledge according to a thirty second embodiment, in a first direction;
- FIG. 126 depicts a perspective view of the preform having the support ledge of FIG. 125 in a second direction;
- FIG. 127 depicts a front view of a preform having the support ledge of FIG. 125;
- FIG. 128 depicts a side view of a preform having the support ledge of FIG. 125;

- FIG. 129 depicts a perspective view of the preform having a support ledge according to a thirty third embodiment, in a first direction;
- FIG. 130 depicts a perspective view of the preform having the support ledge of FIG. 129 in a second direction;
- FIG. 131 depicts a front view of a preform having the support ledge of FIG. 129;
- FIG. 132 depicts a side view of a preform having the support ledge of FIG. 129;
- FIG. 133 depicts a perspective view of the preform having a support ledge according to a thirty fourth embodiment, in a first direction;
- FIG. 134 depicts a perspective view of the preform having the support ledge of FIG. 133 in a second direction;
- FIG. 135 depicts a front view of a preform having the support ledge of FIG. 133;
- FIG. 136 depicts a side view of a preform having the support ledge of FIG. 133;
- FIG. 137 depicts a perspective view of the preform having a support ledge according to a thirty fifth embodiment, in a first direction;
- FIG. 138 depicts a perspective view of the preform having the support ledge of FIG. 137 in a second direction;
- FIG. 139 depicts a front view of a preform having the support ledge of FIG. 137;
- FIG. 140 depicts a side view of a preform having the support ledge of FIG. 137;
- FIG. 141 depicts a perspective view of the preform having a support ledge according to a thirty sixths embodiment, in a first direction;
- FIG. 142 depicts a perspective view of the preform having the support ledge of FIG. 141 in a second direction;
- FIG. 143 depicts a front view of a preform having the support ledge of FIG. 141;
- FIG. 144 depicts a side view of a preform having the support ledge of FIG. 141;
- FIG. 145 depicts a perspective view of the preform having a support ledge according to a thirty sevenths embodiment, in a first direction;
- FIG. 146 depicts a perspective view of the preform having the support ledge of FIG. 145 in a second direction;
- FIG. 147 depicts a front view of a preform having the support ledge of FIG. 145;
- FIG. 148 depicts a side view of a preform having the support ledge of FIG. 145;
- FIG. 149 depicts a perspective view of the preform having a support ledge according to a thirty eighths embodiment, in a first direction;
- FIG. 150 depicts a perspective view of the preform having the support ledge of FIG. 149 in a second direction;

- FIG. 151 depicts a front view of a preform having the support ledge of FIG. 149;
- FIG. 152 depicts a side view of a preform having the support ledge of FIG. 149;
- FIG. 153 depicts a perspective view of the preform having a support ledge according to a thirty ninths embodiment, in a first direction;
- FIG. 154 depicts a perspective view of the preform having the support ledge of FIG. 153 in a second direction;
- FIG. 155 depicts a front view of a preform having the support ledge of FIG. 153;
- FIG. 156 depicts a side view of a preform having the support ledge of FIG. 153;
- FIG. 157 depicts a perspective view of the preform having a support ledge according to a fortieth embodiment, in a first direction;
- FIG. 158 depicts a perspective view of the preform having the support ledge of FIG. 157 in a second direction;
- FIG. 159 depicts a front view of a preform having the support ledge of FIG. 157;
- FIG. 160 depicts a side view of a preform having the support ledge of FIG. 157;
- FIG. **161** depicts a perspective view of the preform having a support ledge according to a forty first embodiment, in a first direction;
- FIG. 162 depicts a perspective view of the preform having the support ledge of FIG. 161 in a second direction;
- FIG. 163 depicts a front view of a preform having the support ledge of FIG. 161;
- FIG. 164 depicts a side view of a preform having the support ledge of FIG. 161;
- FIG. **165** depicts a perspective view of the preform having a support ledge according to a forty second embodiment, in a first direction;
- FIG. 166 depicts a perspective view of the preform having the support ledge of FIG. 165 in a second direction;
- FIG. 167 depicts a front view of a preform having the support ledge of FIG. 165;
- FIG. 168 depicts a side view of a preform having the support ledge of FIG. 165;
- FIG. **169** depicts a perspective view of the preform having a support ledge according to a forty third embodiment, in a first direction;
- FIG. 170 depicts a perspective view of the preform having the support ledge of FIG. 169 in a second direction;
- FIG. 171 depicts a front view of a preform having the support ledge of FIG. 169; and,
- FIG. 172 depicts a side view of a preform having the support ledge of FIG. 169.

### 1 Claim, 43 Drawing Sheets

