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Datasheet for the decision of 28 November 2008

Case Number: T 1641/06 - 3.2.05

Application Number: 95304840.2

Publication Number: 0693358

IPC: B29C 49/42

Language of the proceedings: EN

Title of invention:
A process for making a blow molded product

Patentee:
SALFLEX POLYMERS LTD.

Opponent:
Kautex Maschinenbau GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Inventive step (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 1641/06 - 3.2.05

D E C I S I O N
of the Technical Board of Appeal 3.2.05
of 28 November 2008

Appellant: (Opponent)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 21 August 2006 rejecting the opposition filed against European patent No. 0693358 pursuant to Article 102(2) EPC 1973.

Composition of the Board:

Chairman: W. Zellhuber
Members: P. Michel
M. J. Vogel

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the Opposition Division rejecting the opposition filed against European Patent No. 0 693 358.

II. The appellant requests that the decision under appeal be set aside and that the European Patent No. 0 693 358 be revoked.

The respondent (patentee) requests that the appeal be dismissed.

III. The following documents have been referred to in the appeal proceedings:

E3: "Abfallarmes Blasformen komplexer Formteile", Kunststoffe 83 (1993) 9, pages 651 to 655
E4: "Blasformen", Kunststoffe 82 (1992) 12, pages 1229 to 1232
E5: "Blasformmaschinen Baureihe BFB 8", Battenfeld Blasformtechnik
E7: US-A-5,250,238

IV. Claim 1 as granted reads as follows:

"1. A process for making a blow molded product including the steps of:
extruding a parison (22) from an extrusion head so that said parison (22) hangs from said extrusion head substantially vertically;
closing complimentary mold halves (10,12) over said parison (22) to create a closed mold, and blow molding said product in said closed mold,

characterised by the steps of, during the closure of said mold halves (10,12) over the parison (22): independently controlling said mold halves (10,12) to move said mold halves (10,12) independently of each other from a mold open position to a mold closed position, and
grasping at least one first portion of said parison (22) in a manipulator (110) and manipulating said portion of said parison (22) after a second portion of said parison is contacted by one of said mold halves (10,12)."

V. The appellant has argued substantially as follows:

The only feature which distinguishes the subject-matter of claim 1 from the disclosure of documents E3, E4 or E5, is that of independently controlling the mold halves to move the mold halves independently of each other from a mold open position to a mold closed position. However, it does not involve an inventive step to modify the process known from these documents so as to include this feature in view of the disclosure of document E7.

In particular, it is not the case that the mechanical connection between the mold halves as shown in Figure 7 of document E7 prevents the independent control and movement of the mold halves.

The subject-matter of claim 1 thus does not involve an inventive step.

VI. The respondent has argued substantially as follows:

Documents E3, E4 and E5 relate to a molding machine in which the mold halves close simultaneously.

This is also the case in the apparatus of document E7. Whilst the two mold halves can approach the parison at different speeds, the movement of the mold halves is physically coupled, either by mechanical or hydraulic linkage. In particular, Figure 7 shows the mold halves mechanically connected by racks 128a, 128b and a gear 125. It is not possible to move one mold half without directly influencing the position of the other.

At most, document E7 teaches the movement of the complete mold relative to the preform in conjunction with simultaneous movement of the mold halves.

There is thus nothing in the prior art which would suggest to the person skilled in the art to provide a blow molding process in which opposed mold halves are moved independently from one another into the closed position of the mold.

The subject-matter of claim 1 thus involves an inventive step.

Reasons for the Decision

1. *Construction of claim 1*

The term "mold halves" as used in claim 1 is construed as referring to complimentary mold portions which

together create a closed mold cavity. This is consistent with the disclosure of the patent in suit, referring in particular to claim 1, lines 7 and 8 and the description at column 4, lines 46 to 50. The term thus excludes other independently movable sections or segments forming part of a mold half.

The term "independently" is understood to mean that movement of one mold half does not influence movement of the other mold half. As shown in the embodiment of Figure 1 and discussed in paragraph [0022] of the patent in suit, the hydraulic pistons 42 and 62 independently control movement of the mold halves 10 and 12 with respect to each other or the plane of reference 24.

2. *Novelty*

None of documents E3 to E5 discloses a process for making a blow molded product in which, during the closure of the mold halves, the mold halves are independently controlled so as to move independently of each other from a mold open position to a mold closed position.

In the blow molding machine BFB 8, as described in document E5, the left and right mold halves close synchronously (see page 5, central column, lines 12 and 13).

The subject-matter of claim 1 is thus new.

3. *Inventive step*

Document E5 is regarded as representing the closest prior art. This document discloses a process for making a blow molded product including the steps of: extruding a parison from an extrusion head so that said parison hangs from said extrusion head substantially vertically, closing complimentary mold halves over the parison to create a closed mold, and blow molding the product in the closed mold. In addition, at least one first portion of the parison is grasped in a manipulator and manipulated after a second portion of the parison is contacted by one of said mold halves (see document E5, page 9).

However, as noted above, under point 2, the two mold halves close synchronously. The subject-matter of claim 1 is thus distinguished over the disclosure of document E5 in that, during mold closure, the mold halves are independently controlled so to move independently of each other.

By virtue of the fact that the two mold halves close synchronously, it is not possible for hollow bodies having a complicated configuration to be blow molded.

The problem to be solved is thus to provide a process which enables the blow molding of hollow bodies having a complicated configuration.

In the embodiment of Figure 7 of document E7, as in the remaining illustrated embodiments, the desired paths of movement of the mold halves are selected by means of a programmer 160 and are achieved by superimposing

control of the distance between the mold halves, calculated in a calculating unit 162, and control of the displacement of the extruder head 122 and parison 109 (i.e. the plane of reference), calculated in a calculating unit 164. Thus, whilst the mold halves are linked by means of a synchronisation arrangement comprising a gear 125 mounted on a shaft 126 and two toothed racks 128a and 128b, the shaft 126 is not fixed, but indicates displacement of the mold through a displacement pick-up 137 (see document E7, column 19, lines 37 to 58).

The path of movement of each mold half can be chosen and controlled independently of the path of movement of the other mold half. Figures 11 and 12 illustrate examples of possible paths of movement of the mold halves.

The possibility of opening and closing the mold asymmetrically relative to the preform enables hollow bodies having a complicated configuration to be blow molded (see document E7, column 3, lines 10 to 38).

The disclosure of document E7 thus suggests a modification of the process known from use of the blow molding machine BFB 8, in which the left and right mold halves are independently controlled, in order to enable the manufacture of more complicated products.

The subject-matter of claim 1 thus does not involve an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

D. Meyfarth W. Zellhuber