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(54) **PROCEDURE AND MACHINERY FOR THE MOLDING AND ASSEMBLING OF AN ASSEMBLED OBJECT**

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(58) **Field of Classification Search** None
See application file for complete search history.

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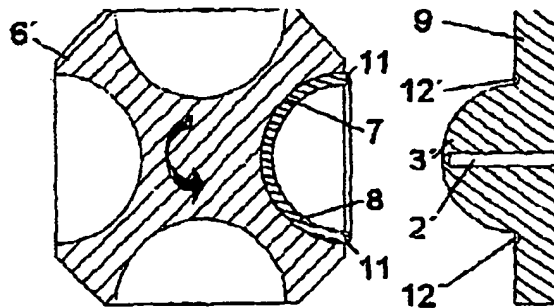
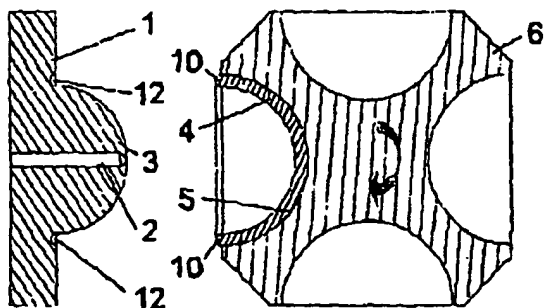
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Primary Examiner—Gary L Kunz

(57) **ABSTRACT**

The invention concerns a procedure and a machinery for molding and assembling of at least two part objects (4) and (8) of plastics, e.g. two ball shells, which can be assembled to a hollow ball (4+8), as molding and assembly can take place in same tool and continuously in the same work procedure. This can be realized by the two turnable middle parts (6) and (6') of the tool, respectively are supplied with the mold cavities (5) and (7), where the assembling of the part objects (4) and (8) can take place, when the respective tool cavities meet during the rotation, at the same time as the closing of the mold. During the closing there can simultaneously be molded new part objects (4'') and (8'') in the opposite placed mold cavities (5'') and (7'') in the two turnable mold part (6) and (6'). If it is necessary in respect of the material or the design of the part objects, there can after the molding of the part objects be applied e.g. heat on the respective boundary surfaces, which shall shape the assembling. This can suitably be fit into the steps, which the turnable middle parts (6) and (6') run through. The part objects (4) and (8) can possibly as well as be assembly by a snap- or click function, which is a pure mechanical assembling.



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**EX PARTE
REEXAMINATION CERTIFICATE
ISSUED UNDER 35 U.S.C. 307**

THE PATENT IS HEREBY AMENDED AS
INDICATED BELOW.

Matter enclosed in heavy brackets [] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

Claims 1 and 6 are determined to be patentable as amended.

Claims 2-5 and 7-10, dependent on an amended claim, are determined to be patentable.

New claims 11-16 are added and determined to be patentable.

1. A process for the molding and assembling of a two-part plastic object, the process comprising the steps of:

providing a machine including first and second rotatable molds, each mold having at least two mold cavities formed therein, and each of said molds having and rotatable on a substantially vertically orientated axis of rotation;

introducing plastic into one of said mold cavities in said first rotatable mold, to form a part, at a first forming position located at a distal facing side of said first rotatable mold;

introducing plastic into one of said mold cavities in said second rotatable mold, to form a part, at a second forming position located at a distal facing side of said second rotatable mold;

rotating said rotatable molds; and

joining parts in opposing mold cavities at an assembly position when one of said mold cavities of said first mold and one of said mold cavities of said second mold are aligned intermediate to said axes of rotation;

wherein the at least two mold cavities in each mold enables said parts to be simultaneously formed at said forming positions and assembled together at said assembly position *by a purely mechanical assembly of said parts.*

6. A process for the molding and assembling of a two-part plastic object, the process comprising the steps of:

providing a machine including first and second rotatable molds, each mold having at least two mold cavities formed therein, and each of said molds having and rotatable on an axis of rotation;

introducing plastic into one of said mold cavities in said first rotatable mold, to form a part, at a first forming position located at a distal facing side of said first rotatable mold aligned with said axes of rotation;

introducing plastic into one of said mold cavities in said second rotatable mold, to form a part, at a second forming position located at a distal facing side of said second rotatable mold aligned with said axes of rotation;

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rotating said rotatable molds; and

joining parts in opposing mold cavities at an assembly position when one of said mold cavities of said first mold and one of said mold cavities of said second mold are aligned intermediate to said axes of rotation;

wherein the at least two mold cavities in each mold enables said parts to be simultaneously formed at said forming positions and assembled together *by a purely mechanical assembly of said parts* at said assembly position.

11. A process for the molding and assembling of a two-part plastic object, the process comprising the steps of: providing a machine including first and second rotatable molds, each mold having at least two mold cavities formed therein, and each of said molds having, and being rotatable on, a substantially vertically orientated axis of rotation;

introducing plastic into one of said mold cavities in said first rotatable mold, to form a first part, at a first forming position located at a distal facing side of said first rotatable mold;

introducing plastic into one of said mold cavities in said second rotatable mold, to form a second part, at a second forming position located at a distal facing side of said second rotatable mold;

rotating said first rotatable mold ninety degrees about its axis and rotating said second rotatable mold ninety degrees about its axis;

after the first and second rotatable molds are rotated, applying heat to an edge of the first part and the second part;

after the step of applying heat to an edge, rotating said first rotatable mold an additional ninety degrees about its axis and rotating said second rotatable mold an additional ninety degrees about its axis;

joining parts in opposing mold cavities at an assembly position when one of said mold cavities of said first mold and one of said mold cavities of said second mold face each other;

wherein the at least two mold cavities in each mold enables said parts to be simultaneously formed at said forming positions and assembled together at said assembly position.

12. The process of claim 11 wherein said first rotatable mold is rotating clockwise about its axis and the second rotatable mold is rotating counterclockwise about its axis.

13. The process of claim 11 further including the steps of introducing in said first rotatable mold a component selected from the group consisting of electronic components, fluid components and metal components and combining said component with the first part to form a finished product.

14. A process for the molding and assembling of a two-part plastic object, the process comprising the steps of:

providing a machine including first and second rotatable molds, each mold having at least two mold cavities formed therein, and each of said molds having, and being rotatable on, an axis of rotation;

introducing plastic into one of said mold cavities in said first rotatable mold, to form a part, at a first forming position located at a distal facing side of said first rotatable mold aligned with said axes of rotation;

introducing plastic into one of said mold cavities in said second rotatable mold, to form a part, at a second forming position located at a distal facing side of said second rotatable mold aligned with said axes of rotation;

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rotating said first rotatable mold ninety degrees about its axis of rotation and rotating said second rotatable mold ninety degrees about its axis of rotation;

after the first and second rotatable molds are rotated, applying heat to an edge of the parts in the corresponding rotatable molds;

after the step of applying heat to an edge, rotating said first rotatable mold an additional ninety degrees about its axis of rotation and rotating said second rotatable mold an additional ninety degrees about its axis of rotation;

joining parts in opposing mold cavities at an assembly position when one of said mold cavities of said first mold and one of said mold cavities of said second mold are aligned intermediate to said axes of rotation;

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wherein the at least two mold cavities in each mold enables said parts to be simultaneously formed at said forming positions and assembled together.

15. The process of claim 14 wherein said first rotatable mold is rotating clockwise about its axis and the second rotatable mold is rotating counterclockwise about its axis.

16. The process of claim 14 further including the steps of introducing in said first rotatable mold a component selected from the group consisting of electronic components, fluid components and metal components and combining said component with the first part to form a finished object.

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