UNITARY OVER-MOLD NON-CLOG SYSTEM WITH POSITIVE SHUTOFF

Abstract: A unitary over-molded non-clogging system having mechanical breakup capability, a positive shutoff flared wall skirt, having two different overmolded materials forming a laminate combination. The soft flexible face inner portion (16) with a flexible positive shutoff, in combination with mating sealing surface points at two distinct positions (14c, 14d), on a conventional actuator body post (14), forms half of the unitary fitment. A hard portion contour forms the outer half (17), maintaining registration and retention of the entire overmold fitment within the actuator. This overmold combination fit provides these features without increasing the total amount of the parts normally used in conventional spray actuators on pumps and aerosol systems. The actuator can employ a post (14) with or without a mechanical breakup face (16c) while the mating surface of the inner soft interfacing portion would compliment it. This type of actuator also can be used as an outlet valve means for pumps, reducing overall cost.
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC(7)  :  B05B 1/34, 1/14; F23D 14/34; B65D 35/38
   US CL.  :  239/464,337,533.13; 222/494
   According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
   U.S. : 239/106,333,331; 222/493,496

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
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<tr>
<td>A, P</td>
<td>US 6,543,703 B2 (BLAKE) 08 April 2003 (08.04.2003), See whole document</td>
<td>1-12</td>
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<td>A</td>
<td>US 5,857,595 A (NILSON) 12 January 1999 (12.01.1999), See Figures 1-3; columns 2-3</td>
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<td>A</td>
<td>US 2002/0030069 A1 (AUER) 14 March 2002 (14.03.2002), See Figure 1</td>
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</table>

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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Date of the actual completion of the international search
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Authorized officer
Sharon A. Greene

Lina Kontos
Telephone No. (703) 306-4207

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (703)305-3230

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